

ABSTRACT OF THE DISCLOSURE

A combination of data communication and transfer protocols to produce a switching system that is intelligent, versatile, economical, and programmable. Specifically, utilizing solely PCI based data communicating bus and the ATM switching protocol, the instant invention is categorically a "virtual matrix" system and design using both hardware and software. The use of the PCI bus based computer and the ATM switching devices along with accounting and call processing software provides the ability to recognize an incoming call in any protocol and least cost route it out on any available port, and book and bill it in real time. The present invention is a comprehensive, flexible scalable, and expandable package providing a high level of performance. In the telephone/cable industry, the ability to do real time processing, rating, and billing of calls and digital services in any protocol in a sole computer based system is a key component to effective service. The present invention stores data in random access memory and uses interprocess communications between software modules instead of database access on disk. A standard personal computer used as a host computer having a PCI bus based switch system processes telecommunications/digital information at least 10 orders of magnitude faster than conventional indexed database

access systems.